

Serial No. 10/031,218

Art Unit: 3773
Examiner: Darwin P. Erez**REMARKS**

In response to the Patent Office Action of October 27, 2008, the Applicant respectfully requests re-examination and re-consideration. To further the prosecution of this application amendments have been made in the claims and arguments are now submitted that will clearly show that all claims should now be in condition for allowance.

In the Patent Office letter the Examiner has set forth rejections under 35 U.S.C. §112 relating to claims 4, 13 and 17. Appropriate amendments have been made to these claims and thus this rejection should now be overcome.

The Examiner has also set forth rejections under 35 U.S.C. §102 and §103 in paragraphs 6-11 of the Patent Office Action. These rejections are based primarily on the Casey et al. U.S. Patent No. 4,489,725. With regard to the patentability of the present invention in relation to the Casey, reference, the Applicant considers that the claims, particularly as now further amended, are novel and non-obvious over Casey et al. Specifically, it is not clear that the clip of Casey has a well defined first substantially straight section adjacent the hinge. The Examiner has suggested there is one in the annotated diagram included on page 5 of the Office Action, but it is not clear whether the position he has indicated as being "substantially straight" is in practice of any different curvature to the first arcuate shaped portion.

There is certainly no teaching in Casey of a straight section which can bear the pressure of the initial closing pressure and can be used to prevent distortion of the arcuate sections during closing to help ensure successful latching. Upper jaw 24 is certainly not stated as being straight adjacent the pivot. Refer in Casey et al. to at least column 2 at lines 35 and 54 where it is stated that "portion 24...is curved..."; and reference to "curved portion 24." Moreover, in the further description in Casey et al. in column 3 around line 40, where the operation is described, so that the clamping force against the curved portion provides "a deformation which consists essentially of a flattening of the curved portion 24." This clearly infers that portion 24 is curved, at rest, and only flattens when a force is applied. This is the very problem that the present invention addresses; that is of not distorting the curved section. Refer to the present application in the PCT

Serial No. 10/031,218

Art Unit: 3773
Examiner: Darwin P. Erczo

publication at the bottom of page 6 where it is stated that"because the initial closing pressure is on the straight section and thus the initial pressure does not distort the curved section."

In terms of still a further distinction over Casey et al., it is clear from the present application that it is an objective of the invention to provide a clip that is both suitable for occluding anatomical structures which are up to and in excess of 5mm in diameter, but can also be loaded into a relatively narrow diameter magazine for delivery down a tube which can be inserted down a cannula. The configuration of the upper jaw, including the complex shape it has which is reflected in the claim language has the advantages indicated on page 2, line 18 onwards of the application, as filed, and continuing onto the top of page 3. Part of the described and claimed complex shape of the upper jaw lies in the requirement that the second arcuate shaped section has two portions which in turn have different radii of curvature. However, it is clear that these radii of curvature both exist on the same side of the jaw. In contrast, in the annotated drawing the Examiner has provided to draw parallels with Casey et al., it is clear that the radius of curvature for the second portion of the second arcuate shaped section is on a different side of the jaw to the radius of curvature of the first portion. Also, in connection with the provision of having a relatively narrow diameter magazine for delivery of the clips down a tube which can be inserted down a cannula, the arrangement shown in Casey et al. is quite disadvantageous because of the reverse turn at the distal end of their clip. This makes their clip not suitable for use in a magazine.

The Examiner considers that it would be an obvious design choice, to one of ordinary skill in the art, to modify the device of Casey et al. to have the applicator apply pressure only on the straight section. This is because the Examiner considers that to apply force to a straight section is equal to applying force on the curved portion. However, this assumption is incorrect. The advantage of the clip construction of the present invention is that the straight section allows the clip to be fed down a relatively narrow diameter tube and allows for a slightly larger clip to be used (see, for example, page 6, lines 3 to 13 of the present specification). On page 6, lines 15 to 20 of the present application states that, if the original clip construction were to be made

Serial No. 10/031,218

Art Unit: 3773
Examiner: Darwin P. Erez

longer, then the upper jaw would be a longer arcuate curve. However, the inventors of the present invention have discovered that when pressure is applied to the curve the upper jaw will deform and the combination of the longer jaw and the silicon lining may cause the upper jaw section to fail to enter under the latch section or not to slide under the latch. Therefore, it is not as the Examiner asserts exactly the same to apply pressure to a straight section as it is to an arcuate section. Therefore, we consider the present claims to be non-obvious over Casey et al. Moreover, as indicated before the applicant urges that Casey et al. clearly does not teach the straight section adjacent to the pivot.

Now, to even more clearly define the present invention over the prior art and particularly over the Casey et al. patent further amendments have been made in the main claims 1 and 18. The further limitations added to both of these claims relate to the direction of curvature of the first and second arcuate shaped portions. In Casey et al. the portion indicated by the Examiner in the diagram as the second arcuate shaped portion has a center of radius of curvature above the jaw while the first arcuate shaped portion has its center of radius of curvature below the jaw, thus providing a reversal in curvatures which is contrary to the teaching of the present invention. In claim 1 this relationship is set forth as a center of the radius of curvature for both the first and second arcuate shaped portions as located on the same side of the upper jaw. This is a further clear structural distinction over the prior art, as well as other limitations found in the claim, such as the straight section. In claim 18 language has also been added to the claim relating to the centers of curvature. In claim 18 the first radius of curvature and the second radius of curvature are both defined by respective centers of curvature located below the upper jaw so that both of the radii of curvature are in the same direction. This is a further clear structural distinction over the prior art, as well as other limitations found in the claim, such as the straight section.

Regarding the double patenting rejection the applicant now submits herewith a terminal disclaimer, the filing of which should now overcome that rejection.

Serial No. 10/031,218

Art Unit: 3773
Examiner: Darwin P. ErezCONCLUSION

In view of the foregoing amendments and remarks, the Applicants respectfully submit that all of the claims pending in the above-identified application are in condition for allowance, and a notice to that effect is earnestly solicited.

If the present application is found by the Examiner not to be in condition for allowance, then the Applicants hereby request a telephone or personal interview to facilitate the resolution of any remaining matters. Applicants' attorney may be contacted by telephone at the number indicated below to schedule such an interview.

The U.S. Patent and Trademark Office is authorized to charge any fees incurred as a result of the filing hereof to our Deposit Account No.19-0120.

Respectfully submitted,
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